

In the Claims

Please cancel claim 71 and amend claims 70, 72, 73, and 76-78 as follows.

Claims 1-69 (Canceled)

70. (Currently Amended) A data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses ~~where~~ wherein the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, said data recording medium comprising:

~~a control data zone~~ an area for storing control data ~~formed by pits~~, said control data comprising:

timing information including at least one of a first pulse movement for modifying a piece of first information for determining a rising edge position of a first pulse of said drive pulses, and a last pulse movement for modifying second information for determining a trailing edge position of a last pulse of said drive pulses; and

an operational power information including at least one of the following: a piece of information for setting a peak power setting, information for setting a bias power setting, and margin information for constant data, said operational power information indicative of light beam power used for recording actual data to ~~the~~ a data area.

[71. (Canceled)

72. (Currently Amended) A data recording medium as claimed in claim 70, wherein said control data ~~in said control data zone~~ further comprises information for asymmetry as one a piece of said operational power information.

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73. (Currently Amended) A recording and reproducing apparatus for use in recording data to and reproducing data from a data recording medium,

~~said the~~ data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses where the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, ~~said the~~ data recording medium comprising:

~~a control data zone~~ an area for storing control data, ~~the formed by pits,~~ said control data comprising: timing information including at least ~~one of a first pulse movement for modifying a piece of first information for determining a rising edge position of~~ a first pulse of ~~said the~~ drive pulses, and ~~a last pulse movement for modifying second information for determining a trailing edge position of~~ a last pulse of ~~said the~~ drive pulses; and

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an operational power information including at least a piece of information for setting one of the following: a peak power ~~setting~~, information for setting a bias power ~~setting~~, and margin information for constant data, said operational power information indicative of light beam power used for recording actual data to ~~the~~ a data area,

said recording and reproducing apparatus comprising:

a reading system that reads the timing information and the operational power information ~~including at least one of peak power, bias power, and margin constant data;~~ and

a determining system that determines drive pulse ~~emission power~~ based on the ~~read~~ timing information and the operational power information.

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74. (Previously Presented) A recording and reproducing apparatus as claimed in claim 73, wherein said determining system for determining drive pulse emission power has a random signal generator for generating a random signal.

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75. (Previously Presented) A recording and reproducing apparatus as claimed in claim 73, wherein said determining system for determining drive pulse emission power has a simple pattern signal generator for generating a simple pattern signal that is a signal having a single period.

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76. (Currently Amended) A recording and reproducing method for use in recording data to and reproducing data from a data recording medium,

said the data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses where the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, said the data recording medium comprising:

~~a control data zone~~ an area for storing control data ~~formed by pits~~, said control data comprising:

timing information including at least one of a first pulse movement for modifying a piece of first information for determining a rising edge position of a first pulse of said drive pulses, and a last pulse movement for modifying second information for determining a trailing edge position of a last pulse of said drive pulses; and

an operational power information including at least one of the following: a piece of information for setting a peak power setting, information for setting a bias power setting, and margin information for constant data, said operational power information indicative of light beam power used for recording actual data to the a data area,

said recording and reproducing method comprising:

~~a reading step that reads the timing information and the operational power information including at least one of peak power, bias power, and margin constant data; and~~

~~a determining step that determines drive~~ drive pulse emission power based on the read timing information and the operational power information.

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77. (Currently Amended) A recording and reproducing method as claimed in claim 76, wherein said determining ~~step for determining drive pulse emission power has a generating step for~~ includes generating a random signal.

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78. (Currently Amended) A recording and reproducing method as claimed in claim 76, wherein said determining ~~step for determining drive pulse emission power has generating step for~~ includes generating a simple pattern signal that is a signal having a single period.